As manufacturer of safety equipment, the Cobianchi Liftteile AG company is responsible for the design and manufacture of the Cobianchi progressive safety gears.
In order to make the production, the distribution, and the maintenance of our progressive safety gears easier for the manufacturers of the framework and for the installation companies, these operating instructions have been established.

These operating instructions document the standard version PC300E. If your installation type differs from the versions described in these instructions, please contact your technical office or the responsible construction department.

In the following you will find important notes, which if properly observed will contribute to an impeccable installation and operation.

The following drawing has to be enclosed with these operating instructions:

Drawing no.	Progressive safety system	Front view, top view, side view
300E-BA01-1	PC300E	Assembly drawing FV with Pos. no.

These operating instructions consist of some pages of text (number depending on the language) and one drawing. Customer-specific solutions may require deviating installation sequences. The progressive safety system can be installed on top of or underneath the cabin. The lifter rope engagement takes place at the draw-in lifters (Pos. 11). The required force to push the main brake shoes (Pos. 13) against the return spring systems (Pos. 19) to the end stop of the housing (Pos. 12) is generated by the feeder cogging of the draw-in lifters (Pos. 11). In the end-position the feeder cogging is no more engaged. For detailed information, please refer to our technical documentation.

Subject to deviations from the standard versions described here.

To be observed prior to the installation:
The PC300E progressive safety gear system consists of two pairs of approved PC100E progressive safety gears. All performance specifications on the type plates apply to one pair consisting of two adjusted and sealed safety gear heads. The same serial numbers are embossed on two safety gear heads. These numbers must correspond to the serial number on the type plates attached and enclosed and must be able to be allocated to the serial number of the installation. If this is not the case, then a mistake has been made and it is necessary to refer back to the purchasing department, your own stores department or directly with the manufacturer.
The transport locks (Pos. 21, connecting rods between the gusset plates (Pos. 6)) must be removed before installation.

1. Assembly

1.1. Assembly and alignment of safety gear heads

As a standard, the safety gear heads are supplied in fully assembled condition and adjusted with four gusset plates (Pos. 6). Support plates (Pos. 5), lifter shaft (Pos. 1 and 2), stop-triggering bushing (Pos. 1b) and limit switch (Pos. 9) are mounted to the safety gear rope side.
The gusset plates (Pos. 6) have to be screwed to the frame using a sufficient number of M16 screws. Secure absorption of the torque acting on the frame structure via the gusset plates (Pos. 6) during the brake process must be ensured.
The guide rail must be located just between the gusset plates (Pos. 6), in order to ensure sufficient lateral movability of the housings (Pos. 12) on the bearing shafts (Pos. 4). With the safety gear in engaged condition any contact between the housings (Pos. 12) and the gusset plates (Pos. 6) must be excluded.
The housings (Pos. 12) are secured in a neutral position by means of the pressure springs (Pos. 14). The precise position has to be adjusted using the set collar (Pos. 15) during commissioning. If the screw in the set collar (Pos. 15) is loosened, the release connections (Pos. 16) have to operated in order to ensure that the draw-in lifters (Pos. 11) contact the rail running surface on both sides. Tighten the screw in the set collar (Pos. 15) in this position.

1.2. Mounting of connection shaft between safety gear heads

The connection shafts are not supplied by Cobianchi Liftteile AG.
In the case of an *internally positioned connection shaft*, the structural steel tube cut to suitable length (DBG -237mm) 20x20x2.5 or 3mm according to DIN 2395-3 has to be connected to the square section release shaft coupler Pos. 8).
If the *connection shaft is positioned at the outside*, the structural steel tube cut to suitable length (DBG -382mm) ø50x5mm according to DIN 2391 has to be welded to the flanks provided (Pos. 2a).
After assembly of connection shaft has been completed, check that the linkage can be rotated easily by hand. In particular in the case of an internally positioned connection shaft, make sure

that no excessive torsion occurs within the shaft. The draw-in lifters (Pos. 11) of the four safety gear heads must engage on both guide rails simultaneously. In the case of great DBG the connection shaft has to be reinforced.

1.3. Assembly of support plates and lifter

If not already preassembled, the support plates (Pos. 5) have to be screwed to the gusset plate (Pos. 6) on the safety gear rope side. Position stop-triggering bushing (Pos. 1b) and insert lifter shaft (Pos. 1 and 2). The roller of the limit switch (Pos. 9) must be positioned in the recess of the triggering bushing (Pos. 1b). Then secure lifter (Pos. 1 and 2) at the draw-in lifter (Pos. 11) and lifter shafts (Pos. 1 and 2) by means of the bolt (Pos. 3). Before tightening the bolts and lock nuts, check that the draw-in lifters (Pos. 11) are in neutral position (safety gear fully open) and the lifter (Pos. 1 and 2) and support plate (Pos. 5) are parallel, when viewed from above. Then tighten all bolts and lock nuts. Now check that the lifters (Pos. 1 and 2) can be moved freely up and down.

1.4. Mounting of double safety rope connector to the two lifters

Connect the safety rope connector (Pos. 7) to the lifter (Pos. 1 or 2) by means of the two pins, insert rubber rings and secure pins by means of splint. Check locking. If required, a vertically adjustable safety rope connector is available from Cobianchi as special accessory.
Before hooking in the release mechanism tension spring (Pos. 10) at the safety gear frame (tension spring by 5-10mm) check manually that the engaging lever system moves smoothly.

1.5. Type plates

Before attaching the enclosed type plates in a clearly visible position of the frame, the intended surface must be cleaned and be completely dry. The adhesive surfaces of the type plates must not be touched over a large surface. After adhering press firmly.

1.6. Indicating label for oiled rails

Every progressive safety gear system for use with oiled rails is supplied with a green indicating label. This should be attached in a clearly visible position (e.g. on rail oiler).
Recommended oil: HLP oils according to DIN 51524, part 2, or similar oils, viscosity ISO VG 68-150.

2. <u>Connection</u>

Wire limit switch (230 V, 4 A) (Pos. 9) and check function.
Connect safety gear rope with rope end connections of safety rope connector (Pos. 7) at lifter (Pos. 1 + 2). The release force at the lifters (Pos. 1 + 2) required for the safety gear to engage is approximately 200-300N. It must be ensured that the tensile force in the limiter rope generated by the released speed limiter is at least 2 times the force required for the safety gear to engage (however, at least 300N).

3. <u>Commissioning</u>

Note: To be observed prior to the first safety gear test:
In all cases, dirt, rust-protection, and eventual paint coats have to be removed from the guide rail running surfaces. This is made best using cold cleaning agents or brake disk cleaning agents.
In the case of oiled rails the HLP oils recommended according to the green indicating label should be used (DIN 51524, part 2, viscosity ISO VG 68-150).

4. <u>Maintenance</u>

I If the progressive safety gear system has been correctly installed, then the maintenance is limited to the following checks:

4.1. Condition of rails:
according to above commissioning instruction

4.2. Triggering linkage:
Synchronous response of lifters (Pos. 11), connection without any play through connection shaft, free and smooth movement of lifters in the respective direction.

4.3. Limit switch:
Correct electrical/mechanical functioning, actuation ensured

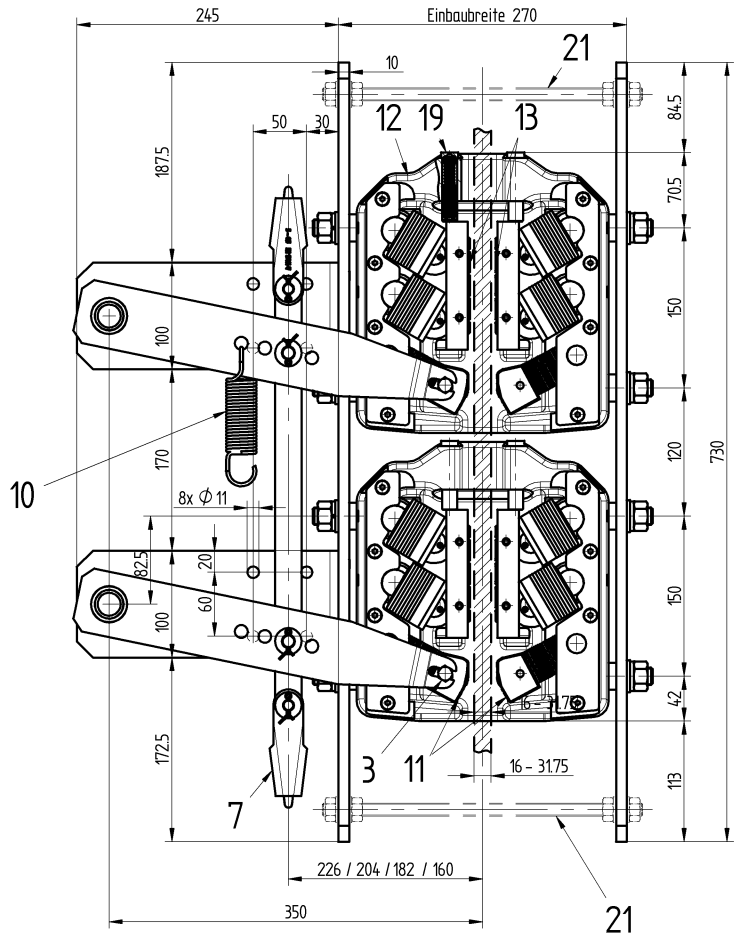
4.4. Safety gear heads:
centred, clean

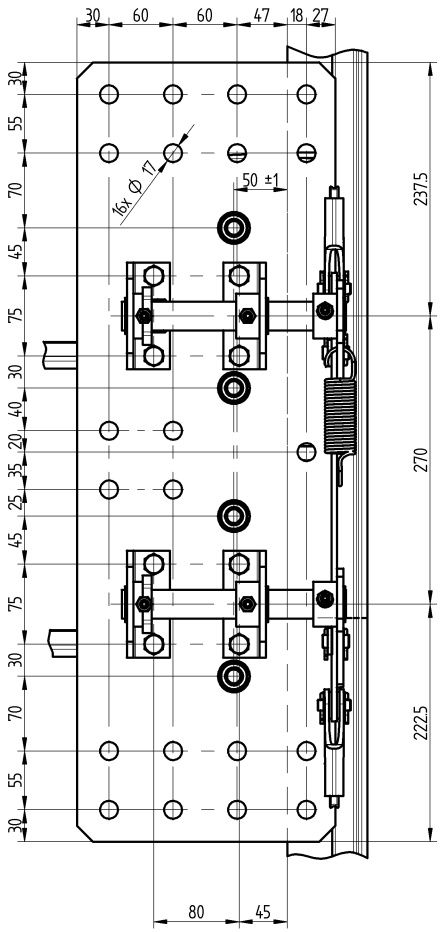
4.5. Guide-ways of cabin:
In an impeccable condition, not widened.

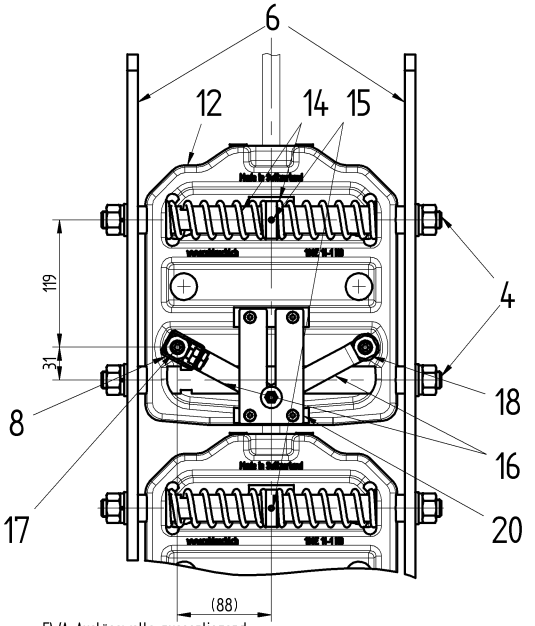
4.6. Cleanliness:

In general and in particular in the case of building construction elevators and conversions of existing installations: make sure that the safety gear heads are protected against contamination with plaster, concrete, cement, mortar, gravel or other materials. Contaminated safety gear heads have to be dismantled and cleaned.

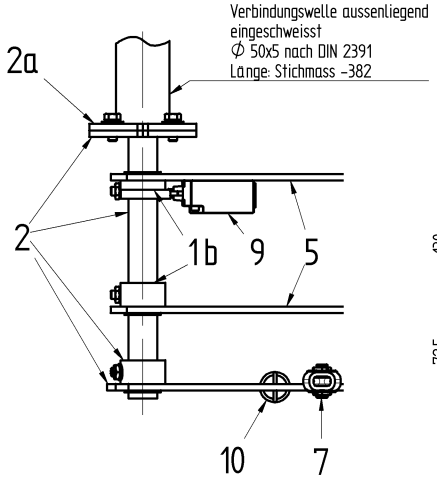
If these simple instructions are followed, then the safety for the users of the elevator as well as for the installation company can be increased significantly.

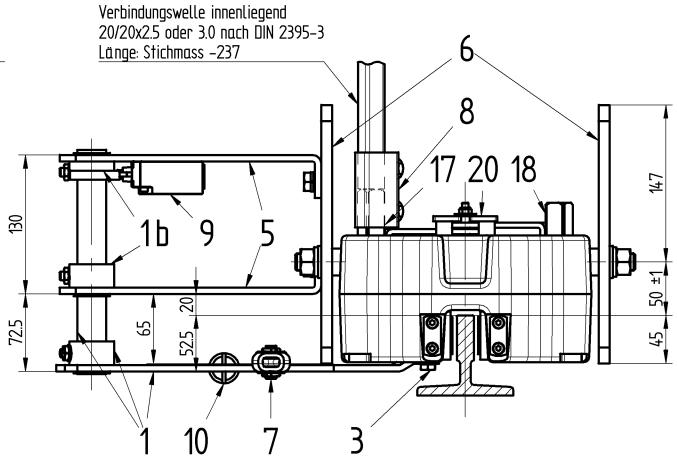






Technische Änderungen vorbehalten





FWA: Auslösewelle aussenliegend
FWI: Auslösewelle innenliegend

Stückzahlen für Gesamtsystem bestehend aus zwei Fangvorrichtungspaaren (4 Fangköpfe)

FWA	FWI	Gegenstand	Pos.	Werkstoff	Modell	Bemerkungen
4	4	Transportsicherung	21	-		-
4	4	Synchronisationseinheit	20	-		-
8	8	Bremsbackenrückstellsystem	19	-		-
4	4	Wellenendstück	18	-	100E-06-2	-
4	4	Auslösewelle	17	-	100E-06-1	-
8	8	Auslöseverbindung	16	-	100E-05-1	-
4	4	Stellring kpl.	15	-	100E-MZ31-2	-
8	8	Druckfeder	14	-	100E-31-1	-
8	8	Bremsbacke	13	-	100E-16-6	-
4	4	Gehäuse	12	-	100E-11-2	-
8	8	Einzugheber	11	-	100E-08-1	-
1	1	Rückzugfeder	10	-	HL20-20-1	-
1	1	Endschalter	9	-	DA-MZ05-2	-
-	2	2 Auslösevierkant kpl.	8	-	DA-MZ03-3	-
1	1	Seilschlossgarnitur kpl.	7	-	300E-MZ30-1	-
1	1	4 Knotenbleche kpl.	6	-	300E-MZ19-1	-
4	2	2 Stützbleche kpl.	5	-	100E-MZ45-1a/b	-
8	8	Aufnahmeachse	4	-	100E-36-1	-
4	2	Schraube	3	-	HL20-03-1	-
2	-	2 Heber FWA kpl. inkl. Heberachse, Anschlag- Auslösehülse kpl. und Flanke 50	2 1b 2a	-	100E-MZ01-2 (DA-MZ28-3) (DA-12-4)	-
-	2	Heber FWI kpl. inkl. Heberachse und Anschlag- Auslösehülse kpl.	1 1b	-	100E-MZ01-1 (DA-MZ28-3)	-

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Änderung: (Datum / Index)

Ausgabe: 18.01.10 / HG

Zusammenstellung

zu Betriebsanleitung

System: PC300E (bestehend aus 2 x PC100E)

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Massstab	Gezeichnet	08.12.09	HG
1 : 5	Kontrolliert	08.12.09	HG
-	Geprüft	08.12.09	DH
-	Ersatz für:	-	

Zeichnungsnummer: 300E-BA01-1